

REMARKS

Amendments to the Specification

The specification has been amended to be more descriptive of the claimed subject matter.

Claim Objections

Claims 37, 52 and 73 have been objected to because of informalities. As suggested by the Examiner, in the claims "an" has been placed before eutectic in place of "a".

Claim Rejections Under 35 USC §102

Claims 36 and 53 have been rejected under 35 USC 102(a) as being anticipated by Masayoshi et al. (JPN 2002-170847).

Claims Rejections Under 35 USC §103

Claims 38-41, 54-64, 71, 72 and 78 have been rejected under 35 USC 103(a) as being unpatentable over Masayoshi (JPN 2002-170847).

Claims 42-43, 46, 65-67, 69-70 and 76-77 have been rejected under 35 USC 103(a) as being unpatentable over Masayoshi (JPN 2002-170847) in view of Chen et al (US Patent No. 6,260,264) and Semi Conductor Data to Engelhard.

Claims 47-51 have been rejected under 35 USC 103(a) as being unpatentable over Masayoshi (JPN 2002-170847) in view of Engelhard ("Semi Conductor Data") and Uchiyama (US Patent No. 6,356,333).

Claims 74-75 have been rejected under 35 USC 103(a) as being unpatentable over Masayoshi (JPN 2002-170847) in view of Chen (US Patent No. 6,260,264).

Allowable Subject Matter

Claims 37, 44-45, 52, 68 and 73 have been objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form.

Claims Amendments

The claims have been amended to include limitations which overcome the rejections, and further distinguish the invention from the prior art.

Independent claim 36 has been amended with the limitations of objected to claim 37 that the particles comprise "an eutectic solder". Objected to claim 37 has been amended to recite "a PbSn solder". Claim 36 and dependent claims 37-41 should thus be allowable.

Independent claim 42 has been amended to state the particles comprise "an eutectic solder". Claim 42 and dependent claim 43 should thus be allowable.

Objected to claims 44 and 45 have been rewritten in independent form with all of the limitations of independent claim 42. Dependent claim 46 has been amended to depend on claim 45. Claims 44-46 should thus be allowable.

Independent claim 47 has been amended with the limitations of objected to claim 52 that the particles comprise "an eutectic solder". Objected to claim 52 has been amended to recite a Pb free solder. Antecedent basis for this recitation is contained on page 11, line 1 of the specification. Claims 47-52 should thus be allowable.

Independent claim 53 has been amended to state the solder alloy comprises a metal selected from the group consisting of Pb, Ag, Au, Ge, Cu and In. As these metals are not disclosed in a underfill material in combination with other claimed features, independent claim 53, and

dependent claims 54-57 are submitted to define patentable subject matter.

Independent claim 58 has been amended to state that the particles comprise "an eutectic solder". Claim 58 and dependent claims 59-64 should thus be allowable.

Independent claim 65 has been amended to state the conductive particles comprise "an eutectic solder". Claim 65 and dependent claims 66-67 should thus be allowable.

Objected to claim 68 has been rewritten in independent form with the limitations of independent claim 65. Dependent claims 69 and 70 have been amended to depend on claim 68.

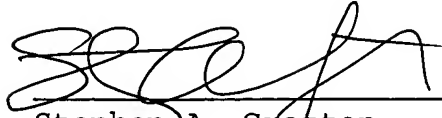
Independent claim 71 has been amended with the limitations of objected to claim 73 that the particles comprise "an eutectic solder". Claim 73 has been amended to state the "eutectic solder comprises a Pb free solder alloy".

Conclusion

In view of the above amendments and arguments, it is submitted that claims 36-78 are now in a condition for allowance. Should any issues remain, the Examiner is asked to contact the undersigned by telephone.

DATED this 28th day of May, 2004.

Respectfully submitted:



Stephen A. Gratton
Registration No. 28,418
Attorney for Applicants

2764 S. Braun Way
Lakewood, CO 80228
Telephone: (303) 989-6353
FAX (303) 989-6538

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class mail in an envelope addressed to: Mail Stop NON FEE AMENDMENT, Commissioner for Patents, PO Box 1450, Arlington, VA 22313-1450 on this 28th day of May, 2004.

May 28, 2004
Date of Signature


Stephen A. Gratton
Attorney for Applicants